Claims

1. A method for detecting a ligand in a cell or tissue sample, said method comprising,

contacting said sample with a binding agent capable of binding said ligand, wherein said agent is attached to a detectable nucleic acid molecule;

staining said sample to identify cells of interest;

capturing or isolating said cells of interest; and

detecting said nucleic acid molecule

wherein the presence of said nucleic acid molecule indicates the presence of said ligand.

2. The method of claim 1 wherein said agent is an antibody.

3. The method of claim 1 wherein said sample is a tissue section, a cytospin, or a cell smear.

4. The method of claim 1 wherein said detecting is by PCR amplification of said nucleic acid molecule.

5. The method of claim 4 wherein said PCR is quantitative PCR and the quantitative presence of said ligand is detected.

6. The method of claim 1 wherein said staining is by histochemical staining.

7. The method of claim 1 wherein said capturing is laser capture microdissection (LCM) or laser microdissection (LMD).

8. The method of claim 1 wherein a plurality of agents, attached to a plurality of different nucleic acid molecules, are simultaneously used to detect a plurality of ligands.

9. The method of claim 8 wherein said agents are antibodies.

10. The method of claim 1 wherein said sample is prostate tissue.

11. The method of claim 10 wherein said ligand is prostate specific ligand.

12. The method of claim 11 wherein capturing is of only one to two cells.

13. The method of claim 1 wherein said nucleic acid molecule comprises a promoter.

14. The method of claim 13 wherein said promoter is a T7 promoter.

15. The method of claim 14 wherein said detecting comprises contacting said promoter with T7 polymerase and identifying transcription initiated from said T7 promoter.

16. The method of claim 8 wherein said plurality of ligands comprise two forms of a polypeptide.

17. The method of claim 16 wherein said two forms are the phosphorylated and unphosphorylated forms of a polypeptide.

18. The method of claim 5 further comprising quantitatively determining the amount of ligand per captured or isolated cell.

19. The method of claim 1 wherein said ligand is a polypeptide, a nucleic acid, a lipid, a carbohydrate, or a portion or domain or epitope thereof.

20 The method of claim 15 wherein said identifying is by contacting transcription products with a microarray comprising nucleic acid molecules capable of binding said products by base pair complementarity.